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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,947	09/22/2003	Jonah A. Harley	10010746-1	5721

7590 03/29/2005  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

TAMAI, KARL I

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

(A)

<b>Office Action Summary</b>	<b>Application No.</b> 10/664,947	<b>Applicant(s)</b> HARLEY ET AL.	
	<b>Examiner</b> Tamai IE Karl	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 9/22/03.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The oath provides a residence but does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

### ***Specification***

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1-5, 7, 9, 14-17, 22, 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Higuchi et al. (Higuchi)(JP 07-274540). Higuchi teaches a comb actuator (figure 2) having opposing combs 100 and 200 with electrodes on the surface of the combs (covered with insulation 321, 322 for protection). The electrodes forming repeating arrays of U, V, and W electrodes which receive power from conductors. The stationary teeth 110, 111 (first and third member) being opposed to a third tooth teeth 201 (second member), with electrodes mounted on the surface of the tooth (see figure 3) with an alternating voltage pattern applied to the electrodes.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (Higuchi)(JP 07-274540), in further view of Suzuki et al. (Suzuki-916)(US 5869916).

Higuchi teaches every aspect of the invention, as discussed above, except the intermediate voltage. Suzuki-916 teaches an intermediate driving voltage to smooth the movement of the mover (see figure 9). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Higuchi with the intermediate driving voltages of Suzuki-916 to provide a smooth movement of the mover.

8. Claims 8, 10-12, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (Higuchi)(JP 07-274540), in further view of Suzuki et al. (Suzuki-987)(JP 08-186,987). Higuchi teaches every aspect of the invention, as discussed above, except each second conductor connected to every other second electrode or the stator electrode connected to every other electrode, the first and second electrodes having different pitches/electrodes per distance (see figure 2), or the first electrodes are set high and low while the other electrodes are changing from low to high and high to low (see figure 3). Suzuki-987 teaches each first or second conductor connected to every other second electrode to provide enhanced driving force. Suzuki-987 teaches the equivalence to the electrodes driven by a two phase or three phase source. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Higuchi with the conductors connected as every other or every three and driven with the DC voltage pulses to provided enhanced driving force.

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9. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (Higuchi)(JP 07-274540), in further view of Hoen et al. (Hoen)(US 5986381). Higuchi teaches every aspect of the invention, as discussed above, except suspension compliant in one direction and stiff orthogonal to the direction of travel. Hoen teaches flexure suspension compliant in one direction and stiff orthogonal to the direction of travel are commonly used for MEMS actuators. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Higuchi with the flexure suspension to provide an appropriate range of motion for the linear electrostatic actuator.

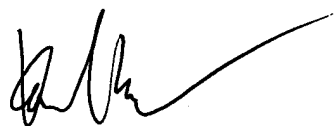
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (703) 872 - 9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai  
PRIMARY PATENT EXAMINER  
March 23, 2005



KARL TAMAI  
PRIMARY EXAMINER